

8. The improved imaging apparatus of claim 7, wherein said hemispherical image data signals generated by said sensor are projected from a single virtual viewing point at the focal center of said hyperbolic mirror.

A 9. The improved imaging apparatus of claim 7, wherein said substantially hyperbolic reflective mirror is a substantially convex mirror and wherein said image data signals generated by said sensor means are projected from a single virtual viewing point at the focal center of said convex mirror.

10. An omnidirectional stereo imaging system comprising:
a first camera that generates hemispherical image data signals;
a first substantially hyperbolic reflective mirror optically associated with said first signal generator such that said first camera views objects in an entire hemispherical field of view from a single virtual viewpoint at the focal center of said first reflective mirror;
a second camera that generates a second set of hemispherical image data signals;
a second substantially hyperbolic reflective mirror optically associated with said second camera such that said camera views objects in an entire hemispherical field of view from a single virtual viewpoint at the focal center of said second reflective mirror; and
a data generator responsive to said hemispherical image data signals from said first and second camera for generating three-dimensional data for objects in said hemispherical fields of view of said first and second reflective mirror.
